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ABSTRACT

This newsletter focuses on six Year 1 research projects associated with the National Research Center on the Gifted and Talented NRC/GT). The updates address: "Regular Classroom Practices With Gifted Students: Findings from the Classroom Practices Survey" (Francis X. Archambault, Jr. and others); "The Classroom Practices Study: Observational Findings" (Karen L. Westberg and others); "The Curriculum Compacting Study" (Sally M. Reis); "Investigations into Instruments and Designs Used in the Identification of Gifted Students and the Evaluation of Gifted Programs" (Carolyn M. Callahan and Paula Pizzat); "The Learning Outcomes Study" (Marcia A. B. Delcourt and Lori Bland); and "A Theory-Based Approach to Identification, Teaching, and Evaluation of Gifted" (Robert J. Sternberg and Pamela R. Clinkenbeard). Additional commentaries consider the impact of parents on gifted adolescents (Julie L. Sherman) and academic summer camp for gifted minority students (Richard Chandler). Also included are several book and journal reviews and abstracts of papers on: Structure of Intellect Tests and giftedness; longitudinal studies of minority groups; characteristics of exceptionally gifted boys; effects of radical acceleration; problem finding skills and creativity; case studies of disadvantaged gifted adolescents; and artistic development in middle childhood. (DB)

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NRC/GT: Research Studies

E. Jean Gubbins
Editor

March 1992

EC 301 258

NRC G/T

The National Research Center on the Gifted and Talented

NEWSLETTER

March 1992

THE UNIVERSITY OF CONNECTICUT•THE UNIVERSITY OF GEORGIA•THE UNIVERSITY OF VIRGINIA•YALE UNIVERSITY

NRC/GT: The Latest News from The Directorate

E. Jean Gubbins, The University of Connecticut

We have had a wonderful response to our work at The National Research Center on the Gifted and Talented. All our contacts with the Collaborative School Districts, Consultant Bank members, State Directors of Programs for the Gifted and Talented, National Research Center Advisory Council, and State Parent and Teacher Organizations have been very positive. You have all helped us to get the word out about our research studies through newsletters, personal communications, and conferences. We have received copies of newsletters from around the country highlighting specific findings from Year 1 studies. Thanks to all of you for helping us maintain such an extensive dissemination plan.

Further updates of several Year 1 studies are the focus of this newsletter. You will learn more about:

1. Regular Classroom Practices with Gifted Students: Findings from the Classroom Practices Survey
2. The Classroom Practices Study: Observational Findings
3. The Curriculum Compacting Study
4. Investigations into Instruments and Designs Used in the Identification of Gifted Students and the Evaluation of Gifted Programs
5. The Learning Outcomes Study
6. A Theory-Based Approach to Identification, Teaching, and Evaluation of the Gifted

The University of Connecticut Research Site, under the direction of Dr. Francis X. Archambault, was responsible for implementing studies 1-3. On January 27, 1992, we held a press conference to announce the results of these studies and received extensive local, state, and national newspaper, radio, and television press coverage. The studies have generated considerable interest and the follow-up requests for more information on curriculum compacting and classroom practices have been extensive. We have been mailing information daily and returning numerous phone calls.

In addition to the 14 studies being conducted over the past two years at the Research Center, we have been working on the commissioned papers from the Research-Based Decision Making Series. The paper by Dr. Karen Rogers on *The Relationship of Grouping Practices to the Education of the Gifted and Talented Learner* has been well received. Orders for the executive summary and full-length paper are filled daily. In several instances, the findings from the paper have been used as the basis for other articles such as one by Lee Wolf, Iowa Department of Education, entitled *Grouping and the Gifted: A More Thoughtful Look* in the *Iowa Talented and Gifted Newsletter* (January 1992). One comment by Wolf that is quotable is: "Doing away with gifted education programs because tracking is detrimental to less able students is making too much soup from one carrot."

Look for announcements in this newsletter for other papers in the Research-Based Decision Making Series on ability grouping by Dr. James Kulik, cooperative learning by Dr. Ann Robinson, and self-concept by Dr. Robert Hoge and Dr. Joseph Renzulli. The information in these papers will help you build a strong case for creating, maintaining, or expanding programs for students with special gifts and talents.

One "small" study that we are now implementing with our Collaborative School Districts and Consultant Bank members that extends the scope of our present NRC/GT research agenda is known as Assumptions Underlying the Identification of Gifted and Talented Students. This study is an opportunity to involve our contacts in the role of "teachers as researchers." The contact persons are working with a sampling plan to obtain responses from teachers, parents, and administrators on survey items on identification — a topic that is often debated and always a concern when you begin to outline program plans. We have received hundreds of responses from over 30 states and 1 territory on items focusing on testing, student background, non-intellectual factors, and case study data. If you have not returned your surveys, there is still time.

The Collaborative School District network continues to expand. As of February 1, 1992, there are 283 districts involved with the Research Center. Welcome aboard goes out to:

Weston Public Schools
Weston, CT

Harford County Schools
Bel Air, MD

Hardin Public Schools
Hardin, MT

Contoocook Valley, SAU #1
Peterborough, NH

Eastern Camden County Schools
Vorhees, NJ

Lincoln School District
Lincoln, RI

Custer School District #1
Custer, SD

Once again, we would like to invite readers to submit articles for the *NRC/GT Newsletter* in three areas: Commentary, Just Off the Press, and Research in Progress. We would be happy to review your work. One article that appeared in the June 1991 newsletter by Linda L. Manwill entitled *Talented and Gifted Education in Rural Alaska: A Universal Model* became the focus of another article in *The New Republic* (December 16, 1991). Therefore, your submissions will reach 4,000 readers of the *NRC/GT Newsletter* and possibly thousands more around the country. Send your submissions to:

The National Research Center on the Gifted and Talented
NRC/GT Newsletter
The University of Connecticut
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Regular Classroom Practices with Gifted Students: Findings from the Classroom Practices Survey

The University of Connecticut

Francis X. Archambault, Jr., Karen L. Westberg, and Scott W. Brown

The Classroom Practices Study was designed to determine the extent to which gifted and talented students are receiving differential education in the regular classroom setting. It addressed five research questions:

1. What instructional practices are used with gifted and talented students in classrooms across the country?
2. Do teachers modify instructional practices and curricular materials to meet the needs of gifted and talented students?
3. Do regular classroom teachers in various parts of the country provide different services for the gifted?
4. Do regular classroom teachers in various size communities provide different services for the gifted?
5. Are there differences in the types of regular classroom services provided to gifted students in districts with and without formal gifted programs?

These questions were addressed through a nationwide survey of over 7300 third and fourth grade teachers and systematic observation of 46 classrooms drawn from the survey sample. This article presents the results of the Classroom Practices Survey. Classroom observation findings are discussed in a separate article.

The sample was restricted to grades three and four since the large majority of gifted programs occur at the elementary level. The sample was constructed to enable comparison of teacher responses from various parts of the country and from various types of communities. Bureau of the Census definitions were used to classify states into regions (Northeast, South, North Central, and West). Schools were classified according to zip codes and Metropolitan Statistical Areas (MSA),into community types (urban, suburban, and rural). Using standard stratified random sampling procedures, a general sample of 3993 teachers was drawn. Using similar procedures, five additional samples were also selected. These included teachers in private (i.e., predominately church-related) schools (n=980) and teachers in schools with high concentrations of four types of ethnic minorities, namely, African-Americans (n=592), Asian-Americans (n=587), Hispanic-Americans (n=579), and Native-Americans (n=580). The response rate across the 6 samples was approximately 50%.

The *Classroom Practices Teacher Survey* solicited information on the background of teachers, the policies and procedures their schools and districts had adopted for educating gifted students, and the classroom practices teachers used with gifted and average students. Teacher reports of their own behavior with both types of students provided a measure of the extent to which gifted students were receiving an enriched or differentiated education. Teachers responded to each of the 39 items in the classroom practices portion of the survey first for average and then gifted students using a scale which included the following responses: once a month or less, a few times a month, a few times a week, daily, and more than once a day.

To increase the interpretability of the results, the 39 items were reduced to 6 factors or scales using principal factor analysis: (1) Questioning and Thinking; (2) Providing Challenges and Choices; (3) Reading and Written Assignments; (4) Curriculum Modifications; (5) Enrichment Centers; and (6) Seatwork. The variance accounted for by this solution, which included all but two of the 39 items, was 38%. Alpha reliabilities for the six factors were .84, .80, .78, .74, .72, and .53, respectively.

The most salient survey finding is that classroom teachers make only minor modifications in the regular curriculum to meet the needs of gifted students. This result was found for public and private schools, and for public schools with high concentrations of African-American, Asian-American, Hispanic-American, and Native-American students as well as for classrooms in various parts of the country and various types of communities.

Although the results clearly depict only small differences between gifted and average students, it should be noted that the repeated measures MANOVAs produced statistically significant results favoring the gifted across all samples and scales. Cohen (1988) and others have argued that since small differences can be statistically significant when sample sizes are large, as was the case in the present research, the magnitude of the effects must also be considered when interpreting results. Most of the effect sizes were very small or negligible (below .2), thus leading to the conclusion that classroom teachers make only minor modifications in the regular curriculum to meet the needs of the gifted.

Acknowledging that the modifications are minor, teachers who provide for the gifted are likely to assign them advanced readings, independent projects, enrichment worksheets, and reports of various kinds. Some classroom teachers also attempt to eliminate material that students have mastered, provide the opportunity for more advanced level work, give gifted students some say in how classroom time is allocated, and expose gifted students to higher level thinking skills. However, gifted students are given no more opportunity than average students to work in locations other than the regular classroom, to use enrichment centers, to pursue self-selected interests, to work in groups with students having common interests, to move to a higher grade for specific subject area instruction, to work with students of comparable ability across classrooms at the same grade level, to work on an advanced curriculum unit on a teacher-selected topic, to participate in a competitive program focusing on thinking skills/problem solving, or to receive concentrated instruction in critical thinking and creative problem solving. Further, most gifted and average students appear to participate in these experiences only a few times a month or less.

The *Classroom Practices Teacher Survey* also demonstrated that the regular classroom services provided to gifted students in schools with formal gifted programs are similar to those provided in schools without formal programs. This finding supports at least two conclusions: (1) that regular classroom teachers in districts with formal programs rely on the gifted resource teacher to meet the needs of gifted students; and (2) that gifted resource teachers have little effect on what classroom teachers do to meet the needs of the gifted, probably because these resource teachers have served primarily in a teaching role.

The results of this survey paint a disturbing picture of the types of instructional services gifted students receive in regular classrooms across the United States. Since most gifted students spend all but two or three hours per week in this environment, one could easily argue that they deserve more. Further, since many districts have eliminated or are in the process of eliminating resource room programs due to economic problems or concerns about the equity of grouping students homogeneously, the future appears even more bleak than the present.

What can be done to improve the education of gifted students? First, every effort should be made to continue, and where feasible even expand, gifted programs, thereby bringing gifted students in contact with teachers who are specially trained to meet their needs. If finances or other considerations dictate that resource rooms be eliminated, new and more concentrated efforts must be made to help classroom teachers provide gifted students with an enriched curriculum. These efforts must certainly include the development of curriculum materials specifically designed for classroom teacher use. They must also result in new approaches for training teachers to use the new materials, to identify the gifted, to compact the regular curriculum, and to become more flexible in meeting the needs of all students, including the gifted. To enable this to occur, a redefinition of the role of gifted specialist may be in order. Instead of spending the large majority of their time as a teacher of gifted students, gifted specialists of the future may be asked to spend significant portions of their time training regular classroom teachers. Thus, rather than serving primarily as a resource to students, gifted specialists may spend more of their time serving as a resource to teachers.

The authors would like to acknowledge Dawn Guenther, NRC/GT Dissemination Coordinator, for her assistance in the preparation of this article.

The Classroom Practices Study: Observational Findings

Karen L. Westberg, Francis X. Archambault, Jr., Sally M. Dobyns, Thomas J. Salvin
The National Research Center on the Gifted and Talented, The University of Connecticut

The Classroom Practices Observational Study, the second aspect of the Classroom Practices Study, was designed to verify and extend the findings from the Classroom Practices Survey administered to over 7000 third and fourth grade teachers. The Classroom Practices Study was designed to determine if and how classroom teachers meet the needs of gifted and talented students in the regular classroom. For the observational study, semi-structured observations were conducted in 46 third or fourth grade classrooms that represented school districts within the four regions of the country, as designated by the U.S. Census Bureau and districts in rural, suburban, and urban communities. Twenty-six classrooms were in schools that provided formal gifted education programs; twenty classrooms were in schools that did not have formal gifted programs.

Nonparticipant observation and semi-structured interviews were selected as the data-gathering techniques for the study. An observation instrument entitled The Classroom Practices Record (CPR) was designed to document the extent to which gifted and talented or high ability students receive modifications in curricular activities, materials, and teacher-student verbal interactions in the classroom. Codes on the CPR instrument were used to record the types of instructional activities, the size of the groups, the composition of the groups, verbal interactions, and the length and types of differentiation experienced by the target gifted and talented or high ability student during reading, language, mathematics, social studies, and science classes.

The CPR was used to record information on two target students, one gifted and talented or high ability student and one average ability student, in a classroom. By observing two target students, it was possible to compare the curriculum and instruction provided to these students in the same classroom. Trained observers spent two days in each classroom; therefore, across the 46 sites, 92 target students of each ability level were observed. Observers used student roster information provided in advance by classroom teachers and a specific protocol to select the target students for each observation day. Systematic selection procedures were developed to ensure the inclusion of minority or economically disadvantaged students in the sample. Observations and interviews were conducted in the spring of 1991, two to four months before the end of the academic year.

Descriptive statistics and chi-square procedures were used to analyze the data. A content analysis procedure was used to synthesize the anecdotal information from the daily summaries written by the observers. The major findings from the study are summarized below.

The results of the quantitative analyses indicated that the target gifted and talented or high ability students received a limited amount of differentiation in reading, language, mathematics, science, and social studies instruction. For the purposes of this study, six codes were used to record evidence of differentiation: advanced content instruction, advanced process instruction, advanced product or project instruction, independent study with assigned topics, independent study with self-selected topics, and other differentiation experiences. Across all five subject areas, the target gifted and talented or high ability students received no differentiated experiences in 84 percent of the activities in which they were involved. This was examined further by comparing these practices in schools that did and did not have formal gifted programs. In classrooms with formal gifted programs, the target gifted students received no differentiation of any sort in 84.1% of the activities; and, in schools with no gifted programs, no differentiation was observed in 84.4% of the activities.

Fourteen types of instructional activities were coded within each subject area: audio visual, demonstration, discussion, explain/lecture, games, non-academic activity, oral reading, project work, review/recitation, silent reading, simulation/role playing, testing, verbal practice or performance, and written assignments. Across all five subject areas, the target gifted and talented or high ability students were most frequently involved in written assignment (26% of the time) and review/recitation (13% of the time) activities.

The size and the composition of the instructional groups in which the target gifted and talented or high ability students participated were also examined. For the majority of the time within each subject area, students participated with the entire class. They worked individually for only 12% of the time and in small groups (2-6 students) only 13% of the time across the five subject areas.

In addition to recording the size of the groups, observers recorded the composition of the groups, i.e., homogeneous grouping or heterogeneous grouping, in which the target gifted students worked during instruction in the five subject areas. Target gifted and talented or high ability students were homogeneously grouped according to achievement or ability level for 40 percent of the time in mathematics and for 29 percent of the time in reading. Across all five subject areas, these students received instruction in homogeneous groups only 21 percent of the time.

Several analyses were conducted on the types of questions and the wait times provided with questions to target students. Codes were used to record the following types of verbal interactions: knowledge-comprehension question, higher-order question, and explanation or comment between or among the teaching adult, target gifted student, target average student, non-target students, and students-at-large. Wait time, the length of elapsed silent time after a question, was also recorded. For this study, wait time of three seconds or more was recorded. No significant differences in question types (knowledge/comprehension versus higher order thinking skills) were found between the target gifted and talented or high ability and target average students. A statistically significant, but weak association was found between the two groups of target students and the number of questions that were accompanied by at least three seconds of pre-response wait time; namely, more wait time was provided to average ability students than to gifted students.

The results of the content analysis procedure for observers' daily summaries corroborated the findings from the descriptive and chi square statistical results. The results of all analyses indicated that observers found little differentiation in instructional and curricular practices, including grouping arrangements and verbal interactions, for gifted and talented students in the regular classroom.

Despite several years of advocacy and efforts to meet the needs of gifted and talented students in this country, the results of this observational study indicate that little differentiation in the instructional and curricular practices is provided to gifted and talented students in the regular classroom. This is of particular concern because special programs for gifted learners outside of the regular classroom are being eliminated in many parts of the country due to economic cutbacks. When this occurs, the needs of gifted and talented students must be addressed in regular classrooms. Even if a gifted program exists, however, it may only provide 1-2 hours of instruction per week to identified students, making the classroom teacher's role even more essential. If gifted education is to become increasingly mainstreamed, provided in the regular classroom, several implications from this study should be considered for the education of gifted and talented students.

The Curriculum Compacting Study

The University of Connecticut

Sally M. Reis

During the 1990-1991 academic year, The University of Connecticut site of The National Research Center on the Gifted and Talented conducted a study to examine the effects of staff development on elementary teachers' ability and willingness to implement a technique entitled curriculum compacting. This technique is designed to modify the regular curriculum to meet the needs of gifted and talented students in the regular classroom. We were interested in determining how much curriculum content could be eliminated for high ability students by teachers who had received various levels of staff development. We investigated what would happen to students' achievement test scores, content area preference and attitude toward learning if curriculum compacting was implemented. To participate in this study, districts had to meet the following criteria: (1) no previous training in curriculum compacting, and (2) accept random assignment to treatment groups. Efforts were made to recruit districts with elementary student populations that included economically disadvantaged and limited English proficient students. Teachers in twenty school districts from throughout the country were randomly assigned by district to three treatment groups that received three different levels of staff development. After receiving staff development services, teachers implemented curriculum compacting for one or two students in their classroom who were selected because of their advanced academic abilities. A group of seven districts was randomly assigned as control groups.

Three escalating levels of staff development which are described below were provided to the treatment groups.

Description of materials used for staff development:

Treatment No.1:
- 2 Videotapes (1 hour total) explaining how to compact curriculum
- 1 Book including more explanatory information about how to implement curriculum compacting (130 pages)
- Related articles/examples

Treatment No. 2:
- 2 Videotapes (1 hour total)
- 1 Book including more explanatory information about how to implement curriculum compacting (130 pages)
- Related articles/examples
- Group compacting simulations and practice conducted by local gifted and talented education consultant

Treatment No. 3:
- 2 Videotapes (1 hour total)
- 1 Book including more explanatory information about how to implement curriculum compacting (130 pages)
- Related articles/examples
- Group compacting simulations and practice conducted by local gifted and talented education consultant
- Local consultant services and peer coaching experiences

The control group teachers identified one or two high ability students and continued normal teaching practices without implementing curriculum compacting. A battery of achievement tests (out-of-level Iowa Tests of Basic Skills - ITBS), content area preference scales, and a questionnaire regarding attitude toward learning were given to identified students in November 1990 and at the completion of the school year.

The following statements represent some of the findings from the curriculum compacting study:

1. Ninety-five percent of the teachers were able to identify high ability students in their classes and document students' strengths.

2. Approximately 40-50% of traditional classroom material was compacted for selected students in one or more content areas in mathematics, language arts, science and social studies.

3. The most frequently compacted subject was mathematics, followed by language arts. Science and social studies were compacted when students demonstrated very high ability in those areas.

4. A majority of the teachers in all treatment groups said they would compact curriculum again; some said they would try again if they had additional information and assistance from a specialist.

5. A significant difference was found among treatment groups with respect to the overall quality of curriculum compacting, as documented on a form called "curriculum compactor." Treatment group 3 had significantly higher quality compactors than did treatment groups 1 or 2.

6. Eighty percent of the teachers were able to document the curriculum that high ability students had yet to master, list appropriate instructional strategies for students to demonstrate mastery and document an appropriate mastery standard.

7. Replacement strategies consisted of three broad instructional activities: enrichment, acceleration and other (i.e., peer tutoring, cooperative learning, correcting class papers).

8. Teachers in treatment group 3 used significantly more replacement strategies than did teachers in treatment groups 1 or 2.

9. While approximately 95% of teachers used enrichment as a replacement strategy, 18% of teachers also used acceleration.

10. Replacement strategies did not often reflect the types of advanced content that would be appropriate for high ability students, indicating that additional staff development, as well as help from a specialist in the district, would be beneficial.

11. Approximately 60% of the replacement strategies reflected students' interests, needs and preferences.

12. Anecdotal records indicated that three different types of requests were made by teachers as they compacted curriculum:
    - Additional time for students to work with the gifted specialist (if one was available)
    - Assistance in locating additional appropriate materials
    - Consultant assistance as teachers worked through the compacting process.

13. When teachers eliminated as much as 50% of the regular curriculum for gifted students, no differences in the out-of-level post achievement test (ITBS) results between treatment and control groups were found in Reading, Math Computation, Social Studies and Spelling.

14. In Math Concepts and Science, all 3 treatment groups scored significantly higher on the out-of-level post test (ITBS) than did the control group whose curriculum was not compacted.

This study demonstrates the following:
- Curriculum compacting can be implemented in the regular classroom to provide more appropriate educational experiences for gifted and talented students.
- Staff development and peer coaching can improve teachers' use of the compacting process.
- Teachers will need additional training and help to be able to substitute appropriately challenging content and work to students whose curriculum has been modified.
- Curriculum compacting can have positive effects on students.

This research has implications for all who are concerned about the achievement of gifted and talented students.

NRC/GT RESEARCH STUDIES

Investigations into Instruments and Designs Used in the Identification of Gifted Students and the Evaluation of Gifted Programs

The University of Virginia

Carolyn M. Callahan, Paula Pizzat

As we look back on Year 1 of the identification/evaluation (ID/EVAL) research project, we recall our sense of anticipation as the steady stream of mail arrived at Lambeth House on the grounds of the University of Virginia. Staff members of the NRC/GT used computerized data-base searchers to gather all available literature on gifted identification and evaluation practices. Dissertations by authors around the country were reviewed and summarized for current practices, as well as for reliability and validity data. Our correspondence included letters and papers from professionals who submitted their most recent work pertinent to the study. Reading, cross-references, and filing over five hundred responses from school districts were all part of the preparation for the second year of NRC/GT activities. This summer, we coded and recoded the files of data into categories and began to summarize the State of the Art in Identification Practices Across the Nation.

It is a pleasure to report that the National Repository Data-base for Identification and Evaluation Instruments is now operating and underway. From the hundreds of files received from school districts and educators of the gifted, the staff of the NRC/GT has catalogued and entered data describing published and nonpublished instruments, as well as the most recent test reviews, and articles pertaining to these instruments for use with the gifted. At this writing, 244 locally developed instruments, 160 test reviews, 85 journal articles, dissertations and reports are in the various data-bases.

Staff members trained to use the *Scale for Evaluating Gifted Identification Instruments* (SEGII) are currently reviewing published instruments from the inventory of over 200 tests (using the new SEGII, developed during the first year of the NRC/GT.) We rate each instrument according to its usefulness in identification and relative to the variety of definitions and constructs of giftedness for which it might be used. Our evaluation includes close scrutiny of the several types of validity and reliability, so that the NRC/GT will be able to provide comprehensive ratings of instruments for identifying gifted youngsters.

One of our first pilot studies on a locally developed instrument is underway. We are field testing the Diet Cola Test, an instrument to measure science process skills and abilities. Over 250 fourth through eighth graders from Collaborative School Districts with high minority populations are participating in this research. We look forward to the first round of reliability data in early 1992. Other locally developed instruments with reliability, validity and potential for identifying gifted students will be investigated through tests of reliability this spring semester.

Other collaborative activities with school districts include the preparation of the monograph, *Contexts for Promise: Noteworthy Practices in the Identification of Gifted Students.* We have signalled cases of promising practices in gifted education from the Javits Grants projects across the country, and have received confirmation from the following sites: Atlanta Public Schools, Montgomery County Public Schools in Maryland, Urban Scholars Program/University of Massachusetts-Boston, University of New Mexico, The Arts Connection/New York City, Kent State University, and the University of Wisconsin at Whitewater. Each site will prepare a chapter describing their unique project or research regarding the identification of gifted students. Also this winter, educators from four Collaborative School Districts have agreed to be interviewed about their promising practices in the field of gifted education. Information gleaned from these sites will provide the basis for additional chapters in the monograph.

At the University of Virginia we are also investigating the characteristics of program evaluations that encourage improvements in gifted programs. Ten districts have been identified from the National Repository as programs to study in this recent research. We will examine what makes effective and ineffective evaluations, as well as the use of information that affects the implementation, decision-making, or perceptions of programs for gifted learners.

Finally, our other research in progress includes reviewing and rating evaluation instruments using the same process and the newly developed *Scale for the Evaluation of Program Evaluation Instruments* (SEPEI). For further information contact:

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Charlottesville, VA 22903

The University of Connecticut Research Site held its first press conference on January 27, 1992 announcing the findings of the Classroom Practices Survey, Curriculum Compacting Study, and Classroom Practices Observation Study conducted by Dr. Francis X. Archambault, Dr. Sally M. Reis, and Dr. Karen L. Westberg, respectively.

The Learning Outcomes Study

The University of Virginia

Marcia A.B. Delcourt, Lori Bland

The Learning Outcomes Study at the University of Virginia is a two-year investigation of academic and affective changes in students during their first two years in a gifted program (see NRC/GT Newsletter, November 1991). The study compares students enrolled in gifted programs, high ability students from districts where no program is available at the designated grade levels, and students in regular classrooms. Students from five types of program models are compared: within-class programs, pull-out programs, special classes, special schools, and no program. These children were assessed during the fall and spring of the 1990-91 academic year and will be assessed again at the beginning and end of the 1991-1992 school year. Effects of the program will be measured through multiple administrations of an achievement test, an attitudes toward learning survey, self-perception and motivation inventories, and teacher ratings of student learning, creativity, and motivation. An important dimension of the project is the examination of program effects on students from culturally diverse populations.

Initial Results: Year One

We first examined the descriptive characteristics of our sample. We found that students starting their first year in gifted programs scored approximately one year above grade level in academic achievement. For example, the average 2nd grade gifted student scored at about the 3rd year, 1st month grade level in Reading Comprehension, and the average 3rd grade high ability student scored at about the 4th year, 6th month in Reading Comprehension. Schools typically selected high achieving students for their gifted programs and these children continued to achieve at this level as indicated by spring testing. In analyzing the data from the first year of the study, we were interested in focusing on the academic and affective outcomes for White and Black female and male students in different types of programs as measured by "change scores." These values represent the difference between scores from the fall and spring.

Achievement. Initial findings indicate that students in special schools showed the most significant gains in Mathematics Problem-Solving, Social Studies, and Science when compared to students in all other types of programs. Students in pull-out programs had the highest scores in both the fall and the spring for Science. When looking across all program types, White students had higher mean scores for Science achievement in the fall and the spring; however, Black students showed a significantly greater gain in Science achievement than White students. These findings may be due to the fluctuations in curriculum across the different programs and it is important to track this progress over another year to examine whether or not this gain continues.

Attitudes toward learning. For students in special schools, we found that attitudes toward learning scores were higher for White males than for White females. In fact, attitudes toward learning for White females in special schools actually decreased. The change in attitudes toward learning for Black males in pull-out programs was more positive than the change in attitudes for Black females from these same programs. In this situation, attitudes toward learning for Black females also decreased. These patterns need to be observed over the next two data collection periods to examine their stability. Do the attitudes toward learning processes for females continue to decline? If so, do they decline at a faster rate than the attitudes of males? This issue may develop into a question for the follow-up study already under way as a sample of students and teachers in particular programs will be contacted concerning their experiences in their respective programs for the gifted.

Self-perception and self-motivation. Results from this research agree with the literature on self-concept regarding at least one aspect: There is no clear pattern for increases or decreases in different areas of self-perception for students in gifted programs. Two general theories have been postulated. One states that the self-concepts of gifted students should be high, related to their levels of high achievement, while another hypothesis predicts that self-concepts will be lower for students placed into gifted programs due to increased scholastic competition. Patterns from this research study reveal mixed results with students from specific programs showing both significant increases and decreases across different subscales of self-perception and self motivation. For example, students from pull-out programs showed the greatest gains in perceived Scholastic Competence, but had a significant decline in their scores on the Preference for Challenge subscale.

Teacher Ratings. The most striking pattern among these data is the lower change score for teacher ratings of students in special schools as compared to students in all other types of programs. Teachers in special schools rated students about the same in Learning and Motivation at the beginning and end of one academic year, but their ratings of student Creativity decreased over this same period (instrument-*Scales for Rating the Behavioral Characteristics of Superior Students*, Renzulli, Smith, White, Callahan, & Hartman, 1976). A possible explanation for the improved ratings for students in the other program categories is the point of reference used by teachers. In other words, teachers rating students from separate class programs, pull-out programs, within class programs, and comparison groups may have been comparing the characteristics of the subjects in the study to the characteristics of the many students in their classes and schools, therefore, seeing a greater gain in these characteristics and rating them above average more often than did the teachers from special schools. Another explanation for lower change scores from special school programs is related to the restriction of range for these scores. Since students in special schools entered their gifted programs with the highest mean scores for Motivation and Creativity and teachers provided consistent ratings during the spring, these scores showed the least amount of change over time.

In summary, the results reported here are still preliminary since this is the first year of this two-year study. The longitudinal design will provide important information concerning trends of behaviors. A qualitative follow-up to this study is already underway to investigate issues related to curriculum, environment, and program arrangement for each type of gifted program. For additional information about this project, write to:

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Reference

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NRC/GT RESEARCH STUDIES

A Theory-Based Approach to Identification, Teaching, and Evaluation of the Gifted

Yale University

Robert J. Sternberg, Pamela R. Clinkenbeard

In the first year of The National Research Center on the Gifted and Talented, the staff at the Yale University site began a five-year study based on Sternberg's Triarchic Theory. Our study is investigating three major aspects of gifted education — identification, teaching, and student evaluation — in one integrated project. The Triarchic Theory involves three aspects of intellectual ability: analytic, synthetic-creative, and practical-contextual. We will be identifying high school students who are gifted in one of each of these areas (as well as those who are balanced among the three abilities, and a control group). Identification will be followed by instruction tailored to the various abilities. We will be teaching several sections of an exploratory psychology class with one section tailored to analytic abilities, another to creative abilities, and so on. Equal numbers of students with each kind of giftedness will receive each kind of instruction, and all students will be evaluated through all forms of assessment: analytic, creative, and practical achievements. We are interested in performance differences between students who are in a course section that "matches" their type of giftedness, and students who are in a course section that stresses an ability different from their own strength.

Our main task in Year 1 was to develop the curriculum materials which will be used throughout the five years of the project. Our objectives for the first year were: 1) to write and revise the text materials for the exploratory psychology course; 2) to write accompanying curriculum materials for each text unit; 3) to conduct field testing of the Sternberg Triarchic Abilities Test with gifted populations (especially underserved groups both with respect to kinds of giftedness and to demographic status); and 4) to begin planning for a 1992 summer pilot program.

With respect to our accomplishment of these objectives:

1) We have completed a full round of revision work on 13 content units for the exploratory psychology course. The units of text are entitled What is Psychology?, How Psychologists Think, Behavioral Neuroscience, Learning, Consciousness, Sensation, Perception, Memory, Language, Thinking, Intelligence, Cognitive Science, and Cognitive Development. The What is Psychology? unit presents psychology as a field of study and as a career. How Psychologists Think discusses some of the philosophical underpinnings of psychology and briefly presents methodological and statistical issues, as well as the problem solving process through which any scientist works. Behavioral Neuroscience describes the mind-body connection, including basic physiological psychology. Learning covers the history and current status of research on classical and instrumental (operant) conditioning. Consciousness deals with issues of identity, sleep and dreams, and altered states of consciousness. The Sensation unit discusses the five basic senses (including a section on pain research under the topic of Touch), and covers basic principles of sensation such as signal detection. The Perception unit covers theories of perception and various kinds of recognition and perception, including form and pattern, music, and reading. The Memory unit contrasts cognitive with more associationistic views of remembering and presents different theories of how information is processed and stored. Language presents information on the psychological and linguistic components of language, its relationship to thought, and cross-cultural differences in language. The Thinking unit presents inductive and deductive reasoning, problem solving and insight processes, and the development of the information-processing approach to research in the area. The Intelligence unit describes the history of intelligence theories and how they have evolved, and the relationship of intelligence to creativity. The Cognitive Science unit shows how psychology, computer science, anthropology, linguistics, and neuroscience are involved in the interdisciplinary study of cognition and mental models. Finally, the Cognitive Development unit integrates many of the other topics by discussing how perception, memory, and thought develop.

2) We completed a first draft version of the curriculum material which will differentiate the assignments related to these 13 units. This material, based partly on Renzulli's Enrichment Triad Model, includes Type I exploratory activities in analytic, creative, and practical domains; Type II group process-building activities in the three domains; and a Type III independent project. Further curriculum development will include differentiated in-class discussion questions and other suggestions for instructors.

3) With respect to development work on the Sternberg Triarchic Abilities Test, Yale site staff reviewed the current high school and college versions of the test, decided (a) what kinds of revisions were needed and (b) what type of data should be collected. The first revision of the STAT and preparation of a one-hour version suitable for screening for gifted students was partially contracted to Dr. Bonnie Nastasi, an Assistant Professor in school psychology at The University of Connecticut. She developed an experimental one-hour version of the STAT and gathered data on it from both gifted high school students and those not identified as gifted. Yale site staff gathered additional data from a variety of high school populations, and currently the STAT is undergoing further revision.

4) Finally, we met with Yale summer program staff and began negotiations for the services needed to produce our 1992 summer pilot program, where we will try out the identification process, the curriculum and the instructional procedure, and the assessment techniques with 40 to 50 high school students (the full-scale summer program in 1993 will involve 200 to 250 students).

We are pleased with our Year 1 results on this project, and at this point (December 1991) we are well into an exciting and informative Year 2.

Personal Note of Thanks

We are overwhelmed by the extremely large number of persons who responded to our request to write letters of support for the Javits Gifted and Talented Students Act. The favorable comments written in support of the NRC/GT will undoubtedly play a major role in continued funding for the Center. We extend our very sincere thanks to the many persons who took the time to write these very thoughtful letters to the Assistant Secretary. Everyone in the field owes you a debt of gratitude for your efforts.

Joe and Jean